

## 台灣引例の要約部分の英訳

### 引例 1 (TW 525252)

A connecting material for anisotropically electroconductive connection for bonding and connecting a semiconductor element having a plurality of electrodes disposed recedingly from the outer face of the passivation layer formed on the semiconductor element, on the one hand, with a substrate circuit board having a plurality of electrodes in a correspondingly confronted relation to the electrodes of the semiconductor element, on the other hand, which connecting material can afford to attain simultaneously a reliable mechanical bonding of the element with the circuit board and a secured electroconductive connection between the correspondingly confronted electrodes without suffering from damage of the passivation layer even if the passivation layer is made of a resin. The said connecting material (6) comprises an adhesive component (7) of insulating property and electroconductive particles (8), wherein each of the electroconductive particles (8) comprises a resin core particle (8a) coated with a metal layer (8b) and the average particle size d of the electroconductive particles (8) is at least 1.5 times the receding depth h of the electrodes (4) from the outer face of the passivation layer (5) of the semiconductor element (3) and at most 0.5 time the distance s between the neighboring electrodes (4).

### 引例 6 (TW 502353)

A semiconductor device of the present invention includes a semiconductor chip and a printed circuit board. Metal electrodes of the semiconductor chip and the internal connection terminals of the printed circuit board are electrically connected through the metallic joining via precious metal bumps. A melting point of a metal material constituting each of the metallic joining parts is equal to or higher than 275 DEG C, and a space defined between the chip and the board is filled with resin (under fill) containing 50 vol% or more inorganic fillers.

### 引例 7 (TW 200304935A)

In a cationic polymerizable adhesive composition comprising (A) a cationic polymerizable monomer selected from an epoxy monomer, a vinyl ether monomer, or a mixture thereof; (B) a cationic polymerization catalyst; and (C) a solvent for the cationic polymerization catalyst, a mixture of a good solvent and a poor solvent for the cationic polymerization catalyst is used as the solvent.

# 中華民國專利公報 [19] [12]

[11]公告編號：525252

[44]中華民國 92年(2003) 03月21日  
發明

全3頁

[51] Int.Cl<sup>07</sup> : H01L21/60

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[54]名稱：各向異性導電連接材料

[21]申請案號：089121104 [22]申請日期：中華民國 89年(2000) 10月09日

[30]優先權：[31]11-289800 [32]1999/10/12 [33]日本

[72]發明人：

須賀保博 日本  
武市元秀 日本

[71]申請人：

新力化學股份有限公司 日本

[74]代理人：何金塗先生  
何秋遠先生

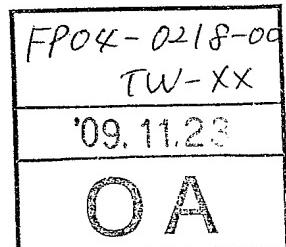
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[57]申請專利範圍：

1. 一種各向異性導電連接材料，其連接材料用來連接：半導體元件，在比鈍化膜低之位置具有電極；和電路基板，具有與該電極對應之電極；其特徵是：  
包含有絕緣性之接著劑和導電性粒子；  
該導電性粒子是以金屬層被覆高分子核材粒子之表面所形成之粒子；  
導電性粒子之平均粒徑是鈍化膜之高度和半導體元件之電極之高度之差1.5倍以上。
2. 如申請專利範圍第1項之各向異性導電連接材料，其中導電性粒子之平均粒徑是鄰接之電極間之間隔之0.5

5. 倍以下。
3. 如申請專利範圍第1項之各向異性導電連接材料，其中導電性粒子是在被覆高分子核材粒子之金屬層之表面，更以絕緣性樹脂被覆所形成者。
4. 如申請專利範圍第2項之各向異性導電連接材料，其中導電性粒子是在被覆高分子核材粒子之金屬層之表面，更以絕緣性樹脂被覆所形成者。
10. 5. 如申請專利範圍第1至4項中任一項之各向異性導電連接材料，其中導電性粒子之硬度(K值)為500～10000N/mm<sup>2</sup>。
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6.如申請專利範圍第 1 至 4 項中任一項之各向異性導電，連接材料，其中導電性粒子中之金屬層之 Mohs 硬度為 1 ~ 6 。

7.如申請專利範圍第 5 項之各向異性導電連接材料，其中導電性粒子中之金屬層之 Mohs 硬度為 1 ~ 6 。

5.

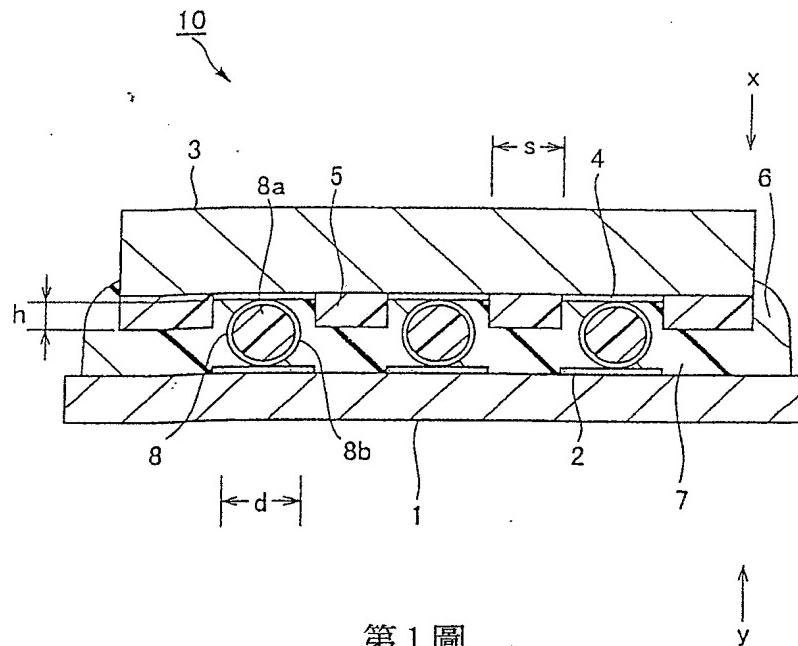
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圖式簡單說明：

第 1 圖是模式方式剖面圖，用來表示實施例之連接體之連接狀態。

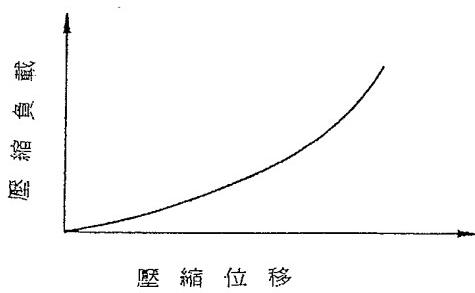
第 2 圖之圖形表示導電粒子之壓縮變位移和負載之關係。

第 3 圖之圖形表示導電粒子之壓縮應變和  $k$  值之關係。

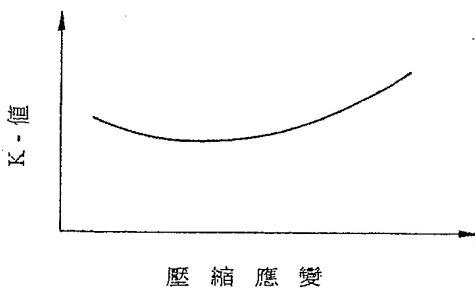


第 1 圖

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第 2 圖



第 3 圖